

REMARKS

Applicant respectfully requests consideration of the subject application as amended herein. This Amendment is submitted in response to the Final Office Action mailed April 15, 2005. Claims 1, 2, 5, 7, 9-14, 17, 19, 21-26 and 28 stand rejected. In this Amendment, claims 1, 2, 13, 14, and 21-25 have been amended. No new matter has been added.

The Examiner has rejected claim 24 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24 has been amended to particularly point out and distinctly claim the subject matter, which Applicant regards as the invention.

Claims 1, 2, 5, 7, 9, 10, 12, 13, 17, 19, 21, 22, 24-26 and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hamilton, et al., (U.S. Patent No. 5,763,951, hereinafter “Hamilton”), and in view of Bonsignore, et al., (U.S. patent No. 6,432,320, hereinafter “Bonsignore”). As discussed below, the pending claims are patentable over the above reference.

Hamilton discloses a circuit board assembly that includes a load/heat sink, a fluid connection, a heat exchanger and a pump. The pump circulates coolant to the sink via the fluid connection. The coolant absorbs heat energy from the sink by conduction on its way to the heat exchanger, which then transfers heat energy from the coolant to the air adjacent the circuit board.

Contrary to the presently claimed invention, Hamilton does not teach or suggest having a thermally conductive plate in thermal contact with a heat generating device, and a fluid loop coupled to the plate to circulate fluid containing magnetic nanoparticles and have the fluid absorb heat from the plate. After the heat is absorbed, the fluid loop passes

the fluid to a heat exchanger. The Examiner asserts that a thermally conductive plate claimed in the present invention is an equivalent of a ground plane/air to liquid heat exchanger 108 in Hamilton. Applicant respectfully disagrees. At the heat exchanger 108, heat energy is transferred from the coolant to the air. In contrast, at the thermally conductive plate of the presently claimed invention, fluid absorbs heat from the plate, and this fluid is then transferred to a heat exchanger. Hamilton does not teach or suggest this feature of the presently claimed invention. This feature is also missing from Bonsignore. Thus, Hamilton and Bonsignore, taken alone or in combination, do not teach or suggest the feature of the present invention that is included in the following language of claim 1:

... a thermally conductive plate to be placed in contact with a heat generating device;

a fluid loop coupled to the plate to circulate the fluid and have the fluid absorb heat from the plate, the fluid loop to thereafter pass the fluid to a heat exchanger, the fluid containing magnetic nanoparticles;....

Simialr language is also included in independent 13 and 25. Thus, the present invention as claimed in claims 1, 13 and 25, and their corresponding dependent claims, is patentable over the above references.

Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. § 103(a) and submits that the pending claims are in condition for allowance. Applicant respectfully requests reconsideration of the application and allowance of the pending claims.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Marina Portnova at (408) 720-8300.

DEPOSIT ACCOUNT AUTHORIZATION

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

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